

WHAT IS CLAIMED IS:

1. A messaging system comprising:

at least one host computer, said host computer comprising a messaging platform upon

5 which messaging applications are executed and a message store for storing messages received by said messaging platform;

at least one network interface unit (NIU) having a first interface to the messaging platform on the host computer for communicating between said NIU and said messaging platform and a second interface to a telephone network for receiving calls from said telephone network; and

at least one embedded services processor (ESP) operatively coupled to said first and second interfaces of said NIU, said ESP comprising a processor, a memory, and an operating system executing on said processor for executing software applications that are otherwise incapable of executing within said NIU.

2. The messaging system recited in claim 1, wherein said ESP further comprises a network interface that supports an IP protocol for communicating between said ESP and a network external to said messaging system.

20 3. The system recited in claim 1, wherein said operating system of said ESP operating system comprises Microsoft Windows NT.

4. The system recited in claim 1, wherein said first and second interfaces of said NIU are operatively coupled via a bus, and wherein said ESP is operatively coupled to said bus.

25 5. The system recited in claim 4, wherein said bus implements the Multibus standard *a IEEE 1296 open bus*

30 6. The system recited in claim 5, wherein said ESP communicates to other NIU interfaces using messaging protocols and standards in accordance with said Multibus (IEEE 1296) open bus standard.

7. The system recited in claim 1, wherein said ESP is capable of cooperating with commercially available messaging hardware and operating commodity software.

subq' 5 8. In a messaging system having a host computer coupled to a network interface unit (NIU), a method to provide extended processing and communication abilities comprising the steps of:

10 providing an embedded services processor (ESP), said ESP a processor, a memory, and an operating system executing on said processor for executing software applications that are otherwise incapable of executing within said messaging system;

15 connecting said ESP to external computer networks such that IP communication is realized between said ESP and said external computer networks, said external computer networks having computers operating various computing applications; and

20 communicating data by said external computer networks to said host computer of said messaging system through said ESP, and vice versa, to execute instructions in accordance with said computing applications operating on said computers of said external computer networks and said host computer.

25 9. The method recited in claim 8, wherein said providing step comprises placing said ESP in said NIU such that said ESP is operatively coupled to NIU to allow communication of data from said ESP to said host computer and back.

10. The method recited in claim 9, wherein said providing step further comprises initializing said ESP to cooperate with components of said messaging system and to 25 communicate with other computing devices.

11. The method recited in claim 8, wherein said communicating step comprises using IP communication protocols and standards to transfer data between said ESP and said external computer networks.

12. The method recited in claim 8, wherein said connecting step comprises providing computers having applications capable of performing various messaging system functions comprising any of: text-to-speech (TTS), automated speech recognition (ASR), and natural language understanding (NLU).

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13. In a messaging system having a host computer operatively coupled to a network interface unit (NIU) having an embedded services processor (ESP) capable of running commodity software and communicating data in a variety of communication protocols and standards, a method to process data for IP communication to external communication networks comprising from said host computer:

providing data by said host computer for communication to said external computer networks, said data indicative of various messaging system functions and operations;
receiving data by said ESP through said NIU; and
packetizing data in accordance with the IP communication protocol for communication to said external computer networks.

14. The method recited in claim 13, wherein said providing step comprises communicating data to a NIU interface, said NIU interface operatively coupled to said host computer to communicate data from said host computer to said NIU and vice versa.

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15. The method recited in claim 13, wherein said receiving step comprises initializing ESP such that ESP may cooperate with said NIU.

sub-a² 16. The method recited in claim 13, wherein said ESP is capable of engaging a variety of *a²* operating states comprising any of: RESET, IDLE, INITIALIZING, RUN_PENDING, RUNNING, and SHUTDOWN.

add a³ 17. The method recited in claim 16, wherein said RESET state may be invoked by any of *a³* said other operating states.